

Amendments to the Claims

Claims 1-28 (canceled).

Claim 29 (previously presented): An integrated circuit comprising:

a semiconductive substrate; and

a roughened platinum layer over the substrate, the roughened platinum layer comprising columnar platinum pedestals terminating in dome-shaped tops.

Claim 30 (previously presented): The integrated circuit of claim 29 wherein:

the roughened platinum layer is continuous over an area of the substrate, the area of the substrate comprising at least about 4×10^6 square angstroms; and

the platinum pedestals are at least about 300 angstroms tall within the area.

Claim 31 (previously presented): The integrated circuit of claim 30 wherein the platinum layer comprises hemispherical grain platinum.

Claim 32 (previously presented): The integrated circuit of claim 30 wherein the area of the substrate comprises a square.

Claim 33 (previously presented): The integrated circuit of claim 29 wherein:

the roughened platinum layer has a continuous surface characterized by the columnar platinum pedestals; and

the columnar platinum pedestals have heights greater than or equal to about one-third of a total thickness of the platinum layer.

Claim 34 (previously presented): The integrated circuit of claim 33 wherein the platinum layer has a thickness of at least about 600 angstroms.

Claim 35 (previously presented): The integrated circuit of claim 33 wherein the platinum layer has a thickness of greater than or equal to about 400 angstroms.

Claim 36 (previously presented): The integrated circuit of claim 33 wherein the platinum layer has a thickness of greater than or equal to about 100 angstroms.

Claim 37 (previously presented): The integrated circuit of claim 33 further comprising an adhesion layer between the platinum layer and the substrate, the adhesion layer comprising at least one of titanium nitride, iridium, rhodium, ruthenium, platinum, palladium, osmium, silver, rhodium/platinum alloy, IrO₂, RuO₂, RhO₂, or OsO₂.

Claims 38 and 39 (canceled).

Claim 40 (previously presented): A capacitor comprising:

a first capacitor electrode;

a second capacitor electrode;

a dielectric layer between the first and second capacitor electrodes; and

wherein at least one of the first and second capacitor electrodes comprises a roughened platinum layer, the roughened platinum layer having a thickness of from about 400 angstroms to about 1000 angstroms and comprising platinum pedestals that are at least about 300 angstroms tall and terminate in dome-shaped tops.

Claim 41 (original): The capacitor of claim 40 wherein the roughened platinum layer comprises hemispherical grain platinum.

Claim 42 (previously presented): The capacitor of claim 40 wherein the roughened platinum layer is over a surface and is continuous over an area of the surface that is at least about 4×10^6 square angstroms.

Claim 43 (original): The capacitor of claim 42 wherein the area comprises a square.

Claim 44 (previously presented): A capacitor comprising:

a first capacitor electrode;

a second capacitor electrode;

a dielectric layer between the first and second capacitor electrodes; and

wherein at least one of the first and second capacitor electrodes comprises a roughened platinum layer, the roughened platinum layer having a continuous surface characterized by columnar platinum pedestals having heights greater than or equal to about one-third of a total thickness of the platinum layer, the platinum pedestals terminating in dome-shaped tops.

Claim 45 (original): The capacitor of claim 44 wherein both capacitor electrodes comprise platinum, but only one of the capacitor electrodes comprises the roughened platinum layer.

Claim 46 (original): The capacitor of claim 44 wherein both capacitor electrodes comprise roughened platinum layers.

Claim 47 (canceled).

Claim 48 (previously presented): The capacitor of claim 44 wherein the platinum pedestals terminate in hemispherical tops.

Claims 49-56 (canceled).